

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in view of the above amendments and the following remarks, is respectfully requested.

Claims 21-26 are pending in this application. Claims 21-24 are amended for clarity, and Claims 25-26 are new. Support for the changes to the claims is found in the originally filed disclosure, including the drawings at least in Figs. 9 and 12-16. No new matter has been added.

In the outstanding Office Action, Claims 21-24 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. 2004/0002364 (Trikkonen) in view of U.S. 2003/0125040 (Walton).

A telephone interview was conducted with Examiner Patel on June 9, 2010, to discuss the Office Action and the claimed invention. Applicant thanks the examiner for his time and comments at the interview.

At the interview, arguments consistent with the following remarks were presented. Although no agreement was reached, the examiner indicated further consideration would be given upon filing of a formal response.

Further, although this amendment is filed in response to a Final Office Action, it is respectfully submitted the finality of the Office Action should be withdrawn because, as discussed below, a *prima facie* case of obviousness has not been established. Accordingly, it is respectfully submitted entrance of the amendment to the claims submitted herewith is proper, and the new claims should be considered.

Claim 21 states, *inter alia*:

the control information comprises weight information on the first and second weights and a transmission format information, on modulation scheme and encoding method, corresponding to the weight information, ***the modulation scheme and encoding method corresponding to the transmission format information being determined based on the signal quality calculated***

on the assumption that the output signals of the plurality of antennas are generated utilizing the weights corresponding to the weight information and the output signals are transmitted simultaneously.

[Emphasis added].

In other words, the signal quality is calculated using the weights corresponding to the weight information for the plurality of antennas for the output signals. The signal quality is also calculated based on the output signals being transmitted simultaneously. This signal quality is used in the determination of the transmission format information, and the modulation scheme and the encoding method correspond to the determined transmission format information. Further, the claimed control information includes the weight information and the transmission format information and is received by the claimed radio communication system from a partner system.

The Office Action acknowledges Trikkonen does not disclose output signals as transmitted simultaneously. For this feature, the Office Action relies on Walton.

However, Claim 21 does not merely require that the output signals be transmitted simultaneously. Claim 21 requires that the signal quality be calculated based on the output signals being transmitted simultaneously. Further aspects of this limitation are now claimed in new Claims 25 and 26, which are discussed below.

Nonetheless, it is respectfully submitted Trikkonen cannot possibly calculate signal quality based on output signals being transmitted simultaneously because Trikkonen, as indicated in the Office Action, does not disclose output signals as transmitted simultaneously.

Whether Walton discusses the simultaneous transmission of output signals is irrelevant to establishing a *prima facie* case of obviousness. It is only relevant whether Walton describes calculating a signal quality based on output signals being transmitted simultaneously. However, the Office Action does not allege Walton teaches this feature, nor does the Office Action establish that this feature has been formally considered. To this

extent, it is respectfully submitted Walton is silent regarding calculating a signal quality based on output signals being transmitted simultaneously.

Accordingly, in order to establish a *prima facie* case of obviousness, (1) a showing must be made in the art of record that a signal quality is calculated based on output signals being transmitted simultaneously, and (2) a rationale as to why it would have been obvious to combine it with the alleged teachings of Trikkonen. Otherwise, it is respectfully submitted the outstanding rejection is deficient and should be withdrawn.

Although varying in scope and/or directed to a different statutory class, it is respectfully submitted the rejection of Claim 23 is also deficient and should be withdrawn for substantially similar reasons as noted above regarding Claim 21. Therefore, it is respectfully submitted Claims 21-24 are allowable over a combination of Trikkonen and Walton.

Regarding the new Claim 25-26, it is respectfully submitted these claims are further allowable over Trikkonen and Walton.

Claim 25 defines selecting the first and second signals from the plurality of information signals to satisfy a minimization of a relationship, $|h_{n1} \cdot h_{n2}|$, where h_{n1} is an estimated propagation vector for the first signal based on a first pilot signal for the first signal, and h_{n2} is an estimated propagation vector for the second signal based on a second pilot signal for the second signal. Further, the control information received from the system of the communication partner identifies the first and second signals which are selected, and the first and second signals are transmitted simultaneously in response to receiving the control information identifying the first and second signals as being selected.

Since the art of record is silent regarding determining a signal quality by minimizing a dot product relationship between simultaneously transmitted signals, it is respectfully submitted Claim 25 is further allowable over the art of record.

Claim 26 defines calculating an output signal to interference-plus-noise ratio (SINR) for each of the plurality of information signals based on pilot signals. Each of the plurality of information signals is determined to be an acceptable signal based on having an SINR greater than or equal to a predetermined value. The first and second signals are selected from the plurality of information signals to reflect a combination of information signals which maximize a number of acceptable signals, and the received control information identifies the first and second signals which are selected. Further, the first and second signals are transmitted simultaneously in response to receiving the control information identifying the first and second signals as being selected.

Since the art of record is silent regarding determining a signal quality by maximizing a number of acceptable signals, as defined by Claim 26, in a combination of signals, it is respectfully submitted Claim 26 is also further allowable over the art of record.

Consequently, it is respectfully submitted this application is in condition for allowance. Should the Examiner disagree, the Examiner is encouraged to contact the undersigned to discuss any remaining issues. Otherwise, a timely Notice of Allowance is respectfully requested.

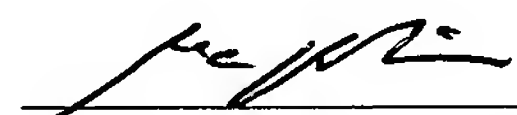
Respectfully submitted,

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